

WE CLAIM:

1. Apparatus for filling bags with a loose commodity and transferring filled bags to a processing means, comprising:
 - a bag filling station comprising a source of loose commodity and an outlet for depositing a predetermined amount of said commodity into said bags;
 - a wicket for receiving empty bags arranged in interconnected array and positioning said bags sequentially beneath said filling station;
 - bag transfer means comprising reciprocating clamp members for releasably engaging an open mouth of a filled bag, said clamp members being mounted to a frame and associated with drive means for reciprocal lateral movement of said clamp members, whereby upon lateral movement of said gripping member and said bag laterally away from said hopper the subsequent of said bags is drawn along said wicket and is advanced to a filling position at said filling station.
2. An apparatus as defined in claim 1, wherein said clamp members comprise a first pair of parallel arms each terminating in a downwardly-depending finger; and a second pair of parallel arms positioned between said first pair and each terminating in a corresponding downwardly-depending finger, said second pair of arms being driven by drive means for reciprocal diverging and converging movement whereby within a converged position said fingers of said second arms are positioned for insertion within an open mouth of a bag, and in said diverged position, said fingers are positioned to draw the mouth of said bag into a taut position whereby opposing corners of the bag are clampingly gripped between the fingers of respective inner and outer arms.
3. An apparatus as defined in claim 1 wherein there is further provided: an air nozzle for directing a stream of air into the mouth of each of said bags.

as they are sequentially positioned at said filling station, for opening the mouths thereof.

4. An apparatus as defined in claim 1, wherein said clamp members are mounted to a carriage means, said carriage means being mounted for reciprocal longitudinal movement to a carriage frame, and drive means for driving said carriage means in a reciprocating longitudinal movement.
5. An apparatus as defined in claim 1, wherein said clamp means are mounted to a frame for reciprocating vertical movement.
6. An apparatus as defined in claim 1, further comprising a conveyer means for receiving filled bags from said gripping means, said conveyer means comprising: a pair of substantially co-planar rotatable belt means, said belt means mounted for reciprocal converging and diverging movement whereby in a diverged position the belt means are spaced apart from each other to receive said bag, and in a converged position said belt means are substantially in contact with each other to convey said bag therebetween;
a first drive means for rotatably driving at least one of said belts;
and
a second drive means for actuating at least one of said belt means between said converged and diverged positions.
7. An apparatus as defined in claim 6 wherein said belt means are mounted within a substantially horizontal plane, and each comprise a pair of spaced apart pulley members supporting a belt therebetween, a first of said belt means being mounted for pivotal movement about a vertical axis.

8. An apparatus as defined in any of claims 2 through 7, further comprising a controller for controlling the apparatus to perform the following sequence of events:
- downward movement of said, whereby said jaws extend at least partly into an open mouth of a first of said bags for deposition of a measured quantity of said commodity therein;
 - movement of said clamp members laterally towards said hopper whereby said fingers are positioned substantially over the mouth of said bags;
 - downward movement of said clamp members whereby by said inner fingers extend into said bag;
 - upward movement of said hopper away from said bag;
 - diverging movement of said inner arms whereby said inner fingers draw the mouth of said bag taut and grippingly engage said bag between respective inner and outer fingers;
 - lateral movement of said bag away from the hopper in a direction substantially perpendicular to the axis of said wicket members, thereby removing the filled bag from the wicket and drawing a second bag laterally into position beneath said hopper, and separating said first and second bags.
9. An apparatus as in claim 8, wherein said controller further controls the apparatus to perform the subsequent step of transferring said filled bag laterally into said conveyor means.
10. An apparatus as in claim 1, wherein said wicket angles downwardly to at least partly feed said bags to said filling station via gravity.
11. A method for filling a bag with a loose commodity and transferring the filled bags to a processing means, comprising the steps of:

providing a bag-filling apparatus featuring a bag filling station , a wicket, and bag transfer means;

providing empty bags on said wicket in a stacked and interconnected array to form a continuous web;

opening the mouth of a first bag on said wicket;

filling a first empty bag with said loose commodity at said filling station;

transferring said filled bag away from said filling station along a generally horizontal plane towards said processing means, thereby drawing a second connected bag into said filling station and detaching said first bag from said second bag; and transferring the filled bag to the processing means.

12. A method as in claim 11, wherein said step of transferring the filled bag away from said filling station comprises transferring the filled bag in a first direction for detaching the filled bag from the subsequent bag, and subsequently in a second direction towards the processing means.
13. A method as in claim 11, wherein the step of transferring the filled bag includes the step of drawing the open mouth of the bag substantially closed, by drawing apart opposed ends of the upper region of the bag, thereby drawing together the opposed sides of the bag, and delivering the substantially closed bag to the processing means.
14. A method as in claim 11, wherein said bags are interconnected to form a continuous web by means of generating between the bags a static electrical charge, or surface tension for releasably holding neighbouring bags together.

15. A method as in claim 11, wherein said bags are interconnected to form a continuous web by means of mechanical connection between said bags.